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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

GAMI, TEJAL

ART UNIT	PAPER NUMBER
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2121

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/826,949

Applicant(s)

PINTO ET AL.

Examiner

Tejal J. Gami

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date : 12/18/06, 07/17/06, 05/27/05, 02/28/05.

DETAILED ACTION

Information Disclosure Statement

Applicant's admission filed May 27, 2005 has been considered. However, the statements made therein are of a general nature. No conclusion either positive or negative can be drawn from these statements.

RULE 105 - REQUEST FOR INFORMATION

1. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.
2. An issue of public use or on sale activity has been raised in this application. In order for the examiner to properly consider patentability of the claimed invention under 35 U.S.C. 102(b), additional information regarding this issue is required as follows: It is unclear from the admission what was known or used by others, whether there were any acts that would constitute an offer for sale, whether there were any public disclosures, or where such acts or disclosures occurred.

Applicant is reminded that failure to fully reply to this requirement for information will result in a holding of abandonment.

3. In response to this requirement, please provide answers to each of the following interrogatories eliciting factual information:

1) What were the specific details of the modeling system referred to in the admission?

a) Do you have any documentation, either hard copies or in electronic form, showing this modeling system? If yes, please provide documentation in

response to this interrogatory. Documentation should be interpreted broadly to include, yet not be limited to: press releases, advertisements, brochures, product manuals, web pages, patents and patent applications (both U.S. and foreign), presentations, technical journals, and product specifications.

b) Do any of the parties subject to a duty of disclosure under 37 CFR 1.56 know of where such documentation, as recited above, may be found? Please state the location in response to this question.

c) Using the language of the claims, what are the specific differences between the modeling system that is mentioned in the admission and the claims?

d) Were there any other modeling systems created by applicants? If so, please provide specific details of these modeling systems, using the language of the claims, and explain how they differ from the claimed invention.

e) Were there any other modeling systems created by applicants? If so, please provide documentation of these systems or state where such documentation may be found.

II) Was the modeling system disclosed in the admission the subject of any of the following types of transactions: offered for sale, bartered or exchanged, licensed, donated or given away, or used for experimental use? Please answer the following interrogatories for each transaction.

a) Where did this transaction occur?

b) What were the details of the transaction?

c) What were the details of the system that formed the basis for this transaction?

d) When did this transaction occur?

e) Who were the parties involved in the transaction?

III) Was the modeling system of this application or of the admission publicly disclosed?

a) Do you have any documentation, either hard copies or in electronic form, showing what was publicly disclosed? If yes, please provide documentation in response to this interrogatory. Documentation should be interpreted broadly to include, yet not be limited to: press releases, advertisements, brochures, product manuals, web pages, presentations, technical journals, and product specifications.

b) Do any of the parties subject to a duty of disclosure under 37 CFR 1.56 know of where such documentation, as recited above, may be found? Please state the location in response to this question.

4. In response to this requirement, please provide the title, citation and copy of each publication that any of the applicants relied upon to develop the disclosed subject matter that describes the applicant's invention, particularly as to developing "transforming of the variables" and "the adjusting of the population of variables". For each publication, please provide a concise explanation of the reliance placed on that publication in the development of the disclosed subject matter.

5. In response to this requirement, please provide the title, citation and copy of each publication that any of the applicants relied upon to draft the claimed subject matter.

Art Unit: 2121

For each publication, please provide a concise explanation of the reliance placed on that publication in distinguishing the claimed subject matter from the prior art.

6. In response to this requirement, please provide the names of any products or services that have incorporated the claimed subject matter.

7. In response to this requirement, please state the specific improvements of the subject matter in claims 1 and 7 over the disclosed prior art and indicate the specific elements in the claimed subject matter that provide those improvements. For those claims expressed as means or steps plus function, please provide the specific page and line numbers within the disclosure that describe the claimed structure and acts.

8. In responding to those requirements that require copies of documents, where the document is a bound text or a single article over 50 pages, the requirement may be met by providing copies of those pages that provide the particular subject matter indicated in the requirement, or where such subject matter is not indicated, the subject matter found in applicant's disclosure.

9. The fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 CFR 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this requirement and any information disclosures beyond the scope of this requirement under 37 CFR 1.105 are subject to the fee and certification requirements of 37 CFR 1.97.

10. The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained may be accepted as a complete reply to the requirement for that item.

11. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

This Office action has an attached requirement for information under 37 CFR 1.105. A complete reply to this Office action must include a complete reply to the attached requirement for information. The time period for reply to the attached requirement coincides with the time period for reply to this Office action.

Specification

12. Claims 4 and 11 are objected to because of the limiting phrase, "loan payment or prepayment" in the second line of each claim.

Applicant is reminded of § 1.75 wherein the claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. (See § 1.58(a)).

Appropriate correction is required.

Claim Rejections - 35 USC § 101

13. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14. Claims 1-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-13 appear to be directed to an abstract idea rather than a practical application of an abstract idea which would produce a "useful, concrete, and tangible result." This claimed subject matter lacks a practical application of a judicial exception since it fails to produce a useful, concrete and tangible result.

For example, claims 1-6 are merely directed towards "receiving, transforming, pruning, and adjusting" "variables", which may not be held to be a tangible result, and therefore non-statutory subject matter. To be tangible the claim must recite more than a 35 U.S.C. 101 judicial exception, in that the process claim must set forth a practical application of that 35 U.S.C. 101 judicial exception to produce a real-world result.

Another example, claims 6 and 7 is directed towards a "user", which may not be held to be a concrete result, and therefore non-statutory subject matter. Usually, a claimed invention is not concrete when a result cannot be assured or is not reproducible. The result must be substantially repeatable. The claim is directed towards subjective subject matter.

Another example, claim 8 is directed towards "behavior", which may not be held to be a concrete result, and therefore non-statutory subject matter. Usually, a claimed invention is not concrete when a result cannot be assured or is not reproducible. The

Art Unit: 2121

result must be substantially repeatable. The claim is directed towards subjective subject matter.

Moreover, the claimed invention must accomplish a practical application i.e., it must produce a "useful, concrete, and tangible result."

Claim Rejections - 35 USC § 112

15. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

16. Claims 6-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

When a rejection under 35 USC § 101 is made for lacking concreteness and the invention cannot operate as intended without undue experimentation because of the lack of repeatability or predictability, the 35 USC § 101 rejection is accompanied by a lack of concreteness rejection under 35 USC § 112, first paragraph.

17. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2121

18. Claim 1 recites the limitation "the population" in Line 8 of the claim. There is insufficient antecedent basis for this limitation in the claim.
19. Claim 6 recites the limitation "the choices" in Line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.
20. Claim 7 recites the limitation "the sequence" in Line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim.
21. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps. See MPEP § 2172.01. Claim 7 is a method claim without steps.

Claim Rejections - 35 USC § 102

22. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

23. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Cassuto et al. (U.S. Publication Number 2002/0127529).

As to independent claim 1, Cassuto discloses a machine-based method comprising receiving historical multi-dimensional data representing multiple variables to be used as an input to a predictive model of a commercial system (see Paragraph [0005]), transforming variables into more predictive variables (see Paragraph [0098]), including Bayesian renormalized variables (see Paragraph [0098]), linearly transformed

Art Unit: 2121

variables and imputed missing values for categorical or continuous variables (see Paragraph [0098]), pruning variables for which the data is sparse or missing (see Abstract; and Paragraph [0048]), adjusting the population of variables to represent main effects exhibited by the data and significant interaction and non-linear effects exhibited by the data (see Paragraph [0058]).

As to independent claim 7, Cassuto discloses a machine-based method comprising in connection with a project in which a user generates a predictive model based on historical data about a system being modeled (see Paragraph [0005]), providing to the user through a graphical user interface the sequence of dimension reduction (see Paragraphs [0032] and [0036]).

As to dependent claim 2, Cassuto teaches the method of claim 1 in which adjusting the population of variables to represent interaction effects includes stages of main effect interactions (see Paragraph [0074]), main effects with main effect interactions and excluded variable interactions (see Paragraph [0064]), and main effects with main effect interactions and excluded variable interactions together with excluded variable combined interactions (see Paragraph [0064]).

As to dependent claim 3, Cassuto teaches the method of claim 1 in which the predictive model predicts behavior of a current customer with respect to retention of a current service or product of a vendor (see Paragraph [0112]).

As to dependent claim 4, Cassuto teaches the method of claim 1 in which the predictive model predicts behavior of a current customer with respect to risk of asserting claims, loan payment or prepayment to a vendor (see Paragraph [0055]).

As to dependent claim 5, Cassuto teaches the method of claim 1 in which the predictive model predicts behavior of a current customer with respect to usage of a current service or product of a vendor (see Paragraph [0112]).

As to dependent claim 6, Cassuto teaches the method of claim 1 also including enabling a user to replicate information about the model as it existed as of the making of any one of the choices (see Paragraph [0057]).

As to dependent claim 8, Cassuto teaches the method of claim 7 in which the system comprises behavior of prospective or current customers of a vendor with respect to products or services offered by the vendor (see Paragraph [0112]).

As to dependent claim 9, Cassuto teaches the method of claim 7 in which the predictive model predicts behavior of a prospective or current customer with respect to purchase of a product or service of a vendor (see Paragraph [0112]).

As to dependent claim 10, Cassuto teaches the method of claim 7 in which the predictive model predicts behavior of a current customer with respect to retention of a current service or product of a vendor (see Paragraph [0112]).

As to dependent claim 11, Cassuto teaches the method of claim 7 in which the predictive model predicts behavior of a current customer with respect to risk of asserting claims, loan payment or prepayment to a vendor (see Paragraph [0055]).

As to dependent claim 12, Cassuto teaches the method of claim 7 in which the predictive model predicts behavior of a current customer with respect to usage of a current service or product of a vendor (see Paragraph [0112]).

As to dependent claim 13, Cassuto teaches the method of claim 7 in which the user interface controls staging of the sequence of model generation activities (see Paragraph [0013]).

Conclusion

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jiang et al. (U.S. Publication Number 2006/0161403) teaches method and system for analyzing data and creating predictive models.

Hoggart (EP Patent Number 1 085 429) teaches classifying data in a database.

Hofmann et al. (U.S. Patent Number 6,687,696) teaches system and method for personalized search, information filtering, and for generating recommendations utilizing statistical latent class models.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tejal J. Gami whose telephone number is (571) 270-1035. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2121

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000..



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